

CLAIMS:

1. A conveying apparatus for conveying a work,  
comprising:

5 a three-phase synchronous motor which is electrically  
connected to a three-phase AC power supply and is driven to  
output power by a three-phase AC voltage output from said  
three-phase AC power supply; and

10 a conveyor body which is operationally coupled to said  
three-phase synchronous motor and operates to convey said work  
with said power output from said three-phase synchronous  
motor.

2. The conveying apparatus according to claim 1, wherein  
15 said three-phase synchronous motor has a stator including a  
plurality of teeth laid at predetermined equiangular  
distances, a first excitation coil, a second excitation coil,  
and a third excitation coil; wherein each of said teeth has  
wound around it one of the first to third excitation coils;  
20 wherein each of a group of those teeth around which said first  
excitation coil is wound, each of a group of those teeth  
around which said second excitation coil is wound, and each of  
a group of those teeth around which said third excitation coil  
is wound are laid out with two of said teeth of other groups  
25 placed in between adjoining teeth of said each group; and  
wherein one of three single-phase AC voltages included in said  
three-phase AC voltage is supplied to each of said first to  
third excitation coils.

30 3. The conveying apparatus according to claim 2, wherein  
said first to third excitation coils are connected to one  
another by a delta connection.

4. The conveying apparatus according to claim 2, wherein  
35 a number of said teeth is a natural multiple of 3.

5. The conveying apparatus according to claim 1, wherein said three-phase synchronous motor is one of a plurality of three-phase synchronous motors, and said conveyor body is one of a plurality of feed rollers to which said three-phase synchronous motors are respectively coupled operationally.

6. The conveying apparatus according to claim 1, wherein said three-phase synchronous motor is one of a plurality of three-phase synchronous motors, and said conveyor body comprises a plurality of feed rollers, wherein some of the feed rollers are respectively coupled operationally to said three-phase synchronous motors, and wherein the rest of the feed rollers are not coupled to any three-phase synchronous motor.

7. The conveying apparatus according to claim 1, wherein said conveyor body comprises a plurality of feed rollers and said power to be output from said three-phase synchronous motor is supplied to at least two of said feed rollers.